What to Know About the Updated COVID Vaccine for Fall, Winter 2024–25

The updated COVID vaccine provides safe, effective protection against current variants for everyone 6 months and older.

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Editor's note: This article was updated on September 3, 2024 to include information on the updated Novavax COVID-19 vaccine, which was authorized by the FDA (https://www.fda.gov/news-events/press-announcements/fda-authorizes-updated-novavax-covid-19-vaccine-better-protect-against-currently-circulating) on August 30, 2024.

Amid an unexpectedly large surge of summer COVID infections (https://publichealth.jhu.edu/2024/why-covid-cases-rise-every-summer) in the U.S., and with the fall/winter virus season around the corner, updated COVID vaccines have arrived.

COVID vaccines are one of the best and safest ways to protect against severe illness and hospitalization. Updated COVID vaccines, also referred to as boosters, are chosen to target the variants currently circulating and are recommended for everyone 6 months of age and older.

In this Q&A, Andy Pekosz (https://publichealth.jhu.edu/faculty/1972/andrew-stanley-pekosz), PhD, a professor in Molecular Microbiology and Immunology (https://publichealth.jhu.edu/departments/molecular-microbiology-and-immunology), discusses who the updated vaccine is recommended for, when to get yours, whether it's safe to get it alongside other seasonal vaccines.

What's new about this year's updated COVID vaccines?

As in previous years, there are mRNA vaccines—one from Moderna, one from Pfizer—and a protein-based vaccine, from Novavax. One nuance this year is that the mRNA and protein-based vaccines target different—though closely related—variants.

The updated mRNA COVID vaccines from Moderna and Pfizer are based on the KP.2 strain, one of the FLiRT variants (https://publichealth.jhu.edu/2024/what-to-know-about-covid-flirt-variants) that have been spreading since early spring. These variants and their sub-variants have caused the majority of infections during this summer's COVID wave. The protein-based Novavax vaccine is based on the JN.1 (https://publichealth.jhu.edu/2024/jn1-the-dominant-variant-in-the-covid-surge) variant, which accounted for the majority of COVID infections in the first few months of 2024 and is the parent strain from which KP.2 and other currently circulating variants branch from.

At the end of the day, laboratory experiments show that all of the updated vaccines available this season can recognize circulating COVID variants and therefore should be similarly effective in reducing your chance of becoming severely ill from COVID infection or needing to be hospitalized.

Who should be getting an updated COVID vaccine?

Everyone 6 months and older should get vaccinated against COVID, according to the CDC's recommendations (https://www.cdc.gov/covid/vaccines/stay-up-to-date.html).

For children ages 6 months to 4 years: Vaccination is recommended, but the number of vaccinations is based on which vaccine they receive, their age, and whether they've received a previous COVID vaccine. Parents and guardians should refer to CDC guidance (https://www.cdc.gov/covid/vaccines/stay-up-to-date.html) and check with their pediatrician to see what's recommended for their child.

For people ages 5 years and up: One dose of the updated COVID vaccine is recommended, regardless of whether they've been vaccinated previously. If someone has received a COVID vaccine recently, they should wait at least two months before getting the updated one for this season.

According to updated CDC guidelines, individuals who are immunocompromised may receive additional doses (https://www.cdc.gov/covid/vaccines/immunocompromised-people.html) with their health care provider's guidance.

When is the best time to get vaccinated?

This summer's surge has been larger and lasted longer than many experts anticipated, making it a little trickier than years past to determine the best time to get vaccinated.

People who have not had COVID in the past few months have a couple options:

- Get the updated COVID vaccine **as soon as it's available** (late August, early September) to protect yourself as the wave of summer infections continues.
- Get the updated COVID vaccine around **mid-October** to boost protection in time for the rise of cases that typically occur around November through January.

People at higher risk of severe illness (https://www.cdc.gov/covid/risk-factors/index.html) should consider getting an updated COVID vaccine as soon as possible. Everyone who is eligible should get an updated COVID vaccine by mid-October in order to build immunity ahead of holiday travel and gatherings. Remember, it takes about two weeks to build up immunity following a vaccine, so schedule your vaccination accordingly.

How long does protection last after I'm vaccinated?

Broadly speaking, the COVID vaccine provides strong protection against infection for up to three months and protection against severe disease out to six months. That said, there are a lot of variables that can affect duration and strength of protection, including any new variants that may emerge and how different they are from the vaccine formulation.

If I had COVID recently, when should I get the updated vaccine?

If you've had COVID this summer, you'll have strong infection-based immunity and can wait a few months after your infection before getting the vaccine. According to the CDC, you can wait three months since your symptoms began or, for asymptomatic cases, since you first tested positive.

There's some evidence to support waiting as long as six months after a COVID infection to receive an updated vaccine. Waiting longer than the CDC's guidance of three months is not recommended for high-risk groups, but it's something people can discuss with their doctor.

How should I choose which COVID vaccine to get?

Between the two mRNA vaccines from Moderna and Pfizer, there is no reason to get one over the other. They target the same KP.2 variant, are similarly effective, and elicit similar side effects.

The same goes for deciding between the mRNA vaccines and the Novavax protein-based vaccine: While they target different variants, they both will recognize current variants. People who have had a particularly adverse response to a previous mRNA vaccine might consider the Novavax vaccine as an

alternative, as protein-based vaccines (https://publichealth.jhu.edu/2022/what-you-need-to-know-about-the-novavax-protein-based-vaccine) generally don't induce as strong side effects.

Is the COVID vaccine free?

The COVID vaccine is free under most health insurance plans and Medicare.

If you don't have insurance to cover the cost of the COVID vaccine, look for vaccination clinics run by your local or state health department. Children under 18 may also be eligible to get a free COVID vaccine through the CDC's Vaccines for Children Program (https://www.cdc.gov/vaccines-for-children/vfc-information-for-parents/).

You can find local pharmacies offering COVID vaccines at Vaccines.gov (https://www.vaccines.gov/search/) or by contacting your health care provider or local health department (https://www.naccho.org/membership/lhd-directory).

Are there any side effects to the updated COVID vaccine?

The common side effects (https://www.cdc.gov/vaccine-safety/vaccines/covid-19.html) are the same as with previous COVID vaccines. Symptoms like soreness at the injection site, achiness or joint pain, fatigue, slight fever, chills, or nausea are normal and not cause for concern. These side effects are a sign that your body is mounting an immune response—exactly what it's supposed to do following a vaccine. Side effects generally subside within a day or two.

If I haven't gotten any COVID vaccines yet, can I start with this one?

If you've never been vaccinated against COVID, now is a great time to start. People 5 years of age and older are considered up to date on COVID vaccination once they receive one dose of an updated mRNA COVID vaccine.

People 12 years and older who have not previously received a COVID vaccine and choose the Novavax vaccine are considered up to date after receiving two doses of the Novavax vaccine, with the second dose administered three weeks after the first one.

How well does the vaccine protect against the variants currently circulating?

The vaccine is a close match to variants currently circulating and provides good protection against severe disease, hospitalization, and death. While KP.2 is not causing a significant number of infections, the most prevalent variants circulating right now are very closely related (https://public.tableau.com/views/Variant_Proportions_Biweekly/Dendrogram?:embed=y&:render=false:showVizHome%3Dno&:display_count=y&:sid=&:redirect=auth&:publish=yes&:llanguage=en&:origin=viz_share_link) to them. The vaccine will never be a perfect match to the circulating variants because it takes 2-4 months to make the vaccine, and during that time the virus continues to change as it infects people.

Is vaccine-induced immunity better than immunity from infection?

Vaccine-induced immunity is better because it's safer. When you get infected with COVID, symptoms from the infection wreak havoc on your body. Whether or not you've been infected or vaccinated previously, the COVID booster is going to strengthen your immune responses to high levels and do so in a safe way.

Can I still get COVID if I'm vaccinated?

People who are vaccinated can still get COVID, but it is much more likely they will experience mild symptoms. Vaccinated people are much less likely to experience severe illness or get so sick that they need to be hospitalized. Data continue to show that those who are hospitalized with COVID are largely people who have not received a COVID vaccine within the past 12 months.

Particularly for people at higher risk of severe COVID, vaccination is an essential tool for reducing COVID complications, hospitalization, and death.

Can you get the flu shot and the COVID vaccine at the same time?

Yes! In fact, studies have shown that people who decide to spread out their vaccines into separate appointments often don't follow through with getting both. We've also seen that the immune response generated by each vaccine does not change based on whether they are administered at the same time or separately.

It's important to remember that many of the same populations at high risk of experiencing severe illness from COVID are also at high risk of severe influenza. Especially for these vulnerable populations, it's a good idea to time your vaccines together.

When might we see a combined COVID and flu vaccine?

Some vaccine manufacturers have been working on developing a combined vaccine for COVID and flu, but we're not there yet. We certainly won't see a combined vaccine this year. It's possible one will be ready in time for fall 2025, but we won't know for sure until more clinical trial results are available.

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Related Articles:

- Understanding the CDC's Updated COVID Isolation Guidance (https://publichealth.jhu.edu/2024/virologist-explains-the-cdcs-new-covid-isolation-guidance)
- What to Know About COVID FLiRT Variants (https://publichealth.jhu.edu/2024/what-to-know-about-covid-flirt-variants)
- The Long History of mRNA Vaccines (https://publichealth.jhu.edu/2021/the-long-history-of-mrna-vaccines)